

IN THE SPECIFICATION:

Please insert the following new paragraph on page 1, after the title and before "BACKGROUND OF THE INVENTION":

AA1 --This application is a division of Application No.

08/573,519 filed December 15, 1995.--

Please substitute the paragraph starting at page 1, line 18 and ending at page 2, line 4 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA2 --In a file management system or data base system for a computer, a technique of managing data hierarchically is often used to manage numerous data items. In a file system, especially, under almost all operating systems (hereinafter OSs), the whole of the file system is segmented and managed using a plurality of hierarchical directories. As far as recently-released OSs are concerned, it is a matter of common practice to adopt a browser system in which a graphical user interface (hereinafter a GUI) is used to display a hierarchical structure of a file system or the like

on a screen, and a pointing device such as a mouse is used to point out intended data, and thus data such as a file is accessed.--

Please substitute the paragraph starting at page 4, line 4 and ending at page 4, line 7 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA 3
--A system for displaying a hierarchical file system using metaphors of folders, such as, the one installed in the OS for the Macintosh trademark of Apple Computer or the OS/2 trademark of IBM has become popular.--

Please substitute the paragraph starting at page 8, line 10 and ending at page 8, line 16 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA 4
--Recently, what is called catalogue software has made its debut as data base software running in a personal computer. The catalogue software is a data base handling

graphics, documents, and images mainly. Fundamentally, a reduced image (hereinafter a "thumbnail image") is created for each data, and desired data is searched by checking (browsing) the reduced images.--

Please substitute the paragraphs starting at page 9, line 7 and ending at page 10, line 22 with the following replacement paragraphs. A marked up copy of these paragraphs, showing the changes made thereto, is attached.

--In the case of an album for making a collection of photographs, a user not only inserts photographs but also writes down comments or overlays a sheet of paper shown in Fig. 62 (hereinafter, a "frame"), which reveals any specific part of a photograph and hides the other part thereof, on a photograph. This is a commonly adopted technique for attracting attention to a specific photograph or highlighting an impressive photograph.

For implementing the technique shown in Fig. 62 in album software, very complex operations are needed to cut out an image using a user-specific frame and store a resultant image. Fig. 63 is a flowchart describing the operating

procedure. At step S201, application software for drawing graphics (hereinafter drawing software) is activated, and a frame is created. In Fig. 64, reference numeral 901 denotes an example of a frame created. At step S202, an image is read into the drawing software, and superposed on the frame by adjusting the size of the image. In Fig. 64, 902 denotes an example of the image superposed on the frame. At step S203, application software for manipulating or editing an image (hereinafter, photo retouch software) is activated. The image superposed on the frame is fetched into the photo retouch software via a clipboard. Within the drawing software, a frame and image can be handled separately from each other. Once fetched into the photo retouch software, the frame and image are made into one image. At step S204, a portion of the image outside the frame is erased within the photo retouch. Reference numeral 904 in Fig. 64 denotes an example of erasure. At this time, an area designation tool and eraser tool of the photo retouch software are used. 904 in Fig. 64 denotes an example of a resultant corrected image. At step S205, the corrected image is saved as a new image in a file. At step 206, the image is fetched into the album software.

AA5

FIG. 64

The known procedure of cutting out an image and fetching it into the album software involves activation of several software packages. The procedure is very complex and the work is hard. For carrying out the foregoing operations, a user needs a certain amount of expertise.--

Please substitute the paragraph starting at page 24, line 24 and ending at page 25, line 6 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

ARC
--For accomplishing the aforesaid object, an image editing method of the present invention for cutting out a designated area of an image in given form has as one feature that a plurality of cutout forms are registered, one of the registered cutout forms is designated and placed at a desired position in an image, the cutout form is enlarged or reduced to a desired size, and then the portion of the image inside the cutout form is output as a cutout image.--

Please substitute the paragraph starting at page 25, line 26 and ending at page 26, line 12 with the following

replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA7
--An image editing method of the present invention to be implemented in a hierarchical data management system for managing a plurality of data items hierarchically has the feature that an icon display size representing a size of an icon to be displayed and data icon display position representing a display position for an icon are registered as attributes of each data. An icon display size and data icon display position are determined in hierarchical order, whereby data icons serving as data identification information can be displayed with a size made different in hierarchical order so that data icons belonging to the same level can be distinguished from those belonging to other levels.--

Please substitute the paragraph starting at page 26, line 20 and ending at page 26, line 3 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA8 --An image editing method of the present invention to be implemented in a hierarchical data management system for managing a plurality of data items hierarchically has the feature that data icons serving as data identification information are displayed with a size made different in hierarchical order, a desired data icon is designated in order to access the data, and a data icon representing data whose access frequency is relatively high is displayed with a relatively large size.--

Please substitute the paragraph starting at page 27, line 4 and ending at page 28, line 14 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA9 --Data icons belonging to the same level are displayed distinguishably from those belonging to other levels. A level to which data having a relatively high access frequency belongs is displayed with a relatively large size. When a data icon displayed with a relatively large size is not accessed for a period of time exceeding a certain period, the data icon is reduced in proportion to the period

during which it is not accessed or a frequency by which any other data is accessed. A desired level or data icon is designated, and then zoomed in, panned, or zoomed out. Data icons belonging to a level subordinating a marked level are vignettted and displayed. Vignetting is achieved by enlarging raw data representing a number of pixels smaller than the number of pixels to be displayed. Data icons belonging to a higher level are vignettted more intensely. The data attributes include one of date information representing a data of access gained to data, and date information specified in data. An icon display size and data icon display position are determined date-orderly, whereby data icons serving as data identification information are displayed with a size made different date-orderly so that data icons associated with the same date can be displayed distinguishably from those associated with other dates. By varying an icon display size and data icon display position, data icons associated with the same date are zoomed in or out. Moreover, either hierarchical display or date-orderly display can be selected. A position in an entire hierarchy being currently displayed in a screen is displayed within a separate window in the form of a position on a plane defined

with vertical and lateral lines and a position in a depth direction. When a desired position is designated in the separate window, a desired level can be displayed at a desired enlargement ratio.--

Please substitute the paragraph starting at page 31, line 4 and ending at page 32, line 22 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

--The display means displays data icons belonging to the same level distinguishably from those belonging to other levels. The second display changing means displays a level to which data whose access frequency is relatively high belongs with a relatively large size. When a data icon displayed with a relatively large size has not been accessed for a period exceeding a certain period of time, the second display changing means reduces the data icon in proportion to the period during which the data icon is not accessed or a frequency by which any other data is accessed. A first display changing means is used to designate a desired level or data icon and to zoom in, pan, or zoom out the level or

data icon. The first display changing means includes a vignetting means for vignetting data icons belonging to a level subordinating a marked level and then displaying the data icons. The vignetting means achieves vignetting by enlarging raw data representing a number of pixels smaller than the number of pixels to be displayed. The vignetting means vignettted data icons belonging to a higher level more intensely. The attribute registering means includes a second display means for registering one of date information representing a date of creation of data, date information representing a date of access gained to data, and date information specified in data as an attribute of each of the data, for determining an icon display size and data icon display position based on date-order, and thus displaying data icons serving as data identification information with a size made different date-orderly so that data icons associated with the same date can be distinguished from those associated with other dates. A third display changing means is provided for zooming in or out data icons associated with the same date by varying an icon display size and data icon display position. A switching means is provided for selecting either the first display means or second display

means. The first and second display means display a position in an entire hierarchy, which is currently displayed in a screen, in a separate window in the form of a position on a plane defined with vertical and lateral lines and a position in a depth direction. A display designating means is used to designate a desired position in the separate window so as to display a desired level at a desired enlargement ratio.--

Please substitute the paragraph starting at page 33, line 14 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA --Fig. 5 shows a data base system of a prior art display;--

Please substitute the paragraph starting at page 38, line 1 and ending at page 38, line 2 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA 12

--Figs. 55A to 55D show methods for accessing each of several data icons grouped in an embodiment;--

Please substitute the paragraph starting at page 39, line 21 and ending at page 39, line 23 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA 13

--Fig. 74 is a flowchart describing a sequence for displaying a cutout state of an image in the fourth embodiment;--

Please substitute the paragraph starting at page 42, line 21 and ending at page 42, line 22 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA 14

--Referring to the appended drawings, the preferred embodiments of the present invention will be described in detail below.--

Please substitute the paragraph starting at page 44, line 24 and ending at page 45, line 8 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA 15
col 1
--In Figs. 2, 40 and 75 showing the configuration of systems, reference numeral 515 may be a floppy disk or the same for storing files, data and/or program-modules, which include application software only or may also include operating systems. Some files, data and/or program-modules stored in a floppy disk 515 are loaded down into a memory (RAM) of a personal computer system before a CPU performs processes of the present invention by using the program-modules in the RAM. The floppy disk may be replaced with a host computer or a communication network.--

Please substitute the paragraph starting at page 46, line 24 and ending at page 47, line 5 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA16

--In Fig. 6, a point displayed so as to appear far away represents a past point and a point seen close represents a future point. Reference numerals 40a, 40b, 40c, and 40d denote display screens. 42a, 42b, 42c, and 42d denote a ring representing a date in different states. 41a, 41b, 41c and 41d denote a data icon on the ring (a data item in the time band represented by the ring) in the different states.--

Please substitute the paragraph starting at page 48, line 23 and ending at page 49, line 11 with the following replacement paragraph. A marked up copy of this paragraph, showing the changes made thereto, is attached.

AA17

--When numerous data items belong to a certain cell, or in other words, numerous data items are associated with a time band of a certain cell, the data items should be displayed slowly so that all the data items can be checked carefully. A cell containing a number of data items larger than a given number is divided into cells of a shorter time band. In the example of Fig. 7, many data items belong to cell 10/7. The cell is therefore divided into four cells

each corresponding to an interval of six hours. Numerous data items belong to cell 12:00-18:00. The cell is therefore subdivided into intervals of one hour. Thereafter, a cell is subdivided at intervals of ten minutes, one minute, ten seconds, one second, etc., until the number of data items belonging to one cell becomes smaller than or equal to the given number.--

Please substitute the paragraphs starting at page 49, line 17 and ending at page 50, line 22 with the following replacement paragraphs. A marked up copy of these paragraphs, showing the changes made thereto, is attached.

AA18 --For explicitly informing a user of the fact that the display speed decreases, the rings shown in Fig. 8 are displayed with a color made lighter in a direction of an auxiliary arrow 60 depicted with a dashed line; that is, as the rings represent the cells of decreasing time intervals (in Figs. 8 and 10, the depth of a color is indicated with the thickness of the ring). In Fig. 8, data icons are not illustrated for the sake of clarity of explanation. In Fig. 8, reference numeral 60 denotes a display screen. A ring 61

lies at an outermost position in the display screen. The ring 61 is displayed in the deepest color. The ring 61 represents cell 10/6, for one day, in Fig. 7. Rings 62a and 62b represents time bands of six hours (0:00-6:00 and 6:00-12:00) and are displayed with lighter colors than the ring 61. Rings 63a and 63b represent time bands of one hour (12:00-13:00 and 13:00-14:00) and are displayed with lighter colors than the rings 62a and 62b. Reference numeral 64 denotes an area in which a time band represented by the outermost ring at that time (ring 61 in Fig. 8) is displayed. Owing to the foregoing display technique, a user can observe even a time band in which data items are congested, for a sufficiently long period of time while recognizing a change between time intervals.

Whether or not a cell should be subdivided is, as described in conjunction with Fig. 7, dependent largely on whether or not the number of data items belonging to the cell exceeds a certain given value. The given value is equal to a maximum number of data icons that can be displayed on one ring. As shown in Fig. 3, in this embodiment, up to eight data icons are placed on one ring. The given value is therefore eight.--